United States
Environmental Protection
Agency

First Phase of Cleanup to Begin

Outboard Marine Corporation
Waukegan Manufactured Gas and Coke Plant Site
Waukegan, Illinois November 2004

Contact EPA

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Site-related documents may be reviewed at:

EPA Region 5 Records Center
77 W. Jackson Blvd., 7th Floor
Chicago
Weekdays 8 a.m. - 4 p.m.

Waukegan Public Library
Reference Desk
128 N. County St.
Waukegan

Site-related information can be also be viewed on EPA's web site at:
http://www.epa.gov/region5/

A U.S. District Court judge signed the Waukegan Coke Plant site cleanup agreement, called a consent decree, Oct. 13, making the agreement "official." The cleanup agreement is among the U.S. Environmental Protection Agency, Illinois Environmental Protection Agency, U.S. Department of Justice; Illinois Attorney General; the City of Waukegan, Elgin, Joliet & Eastern Railroad Co., General Motors Corporation, Larsen Marine Service Inc., and North Shore Gas Company. The cleanup calls for:

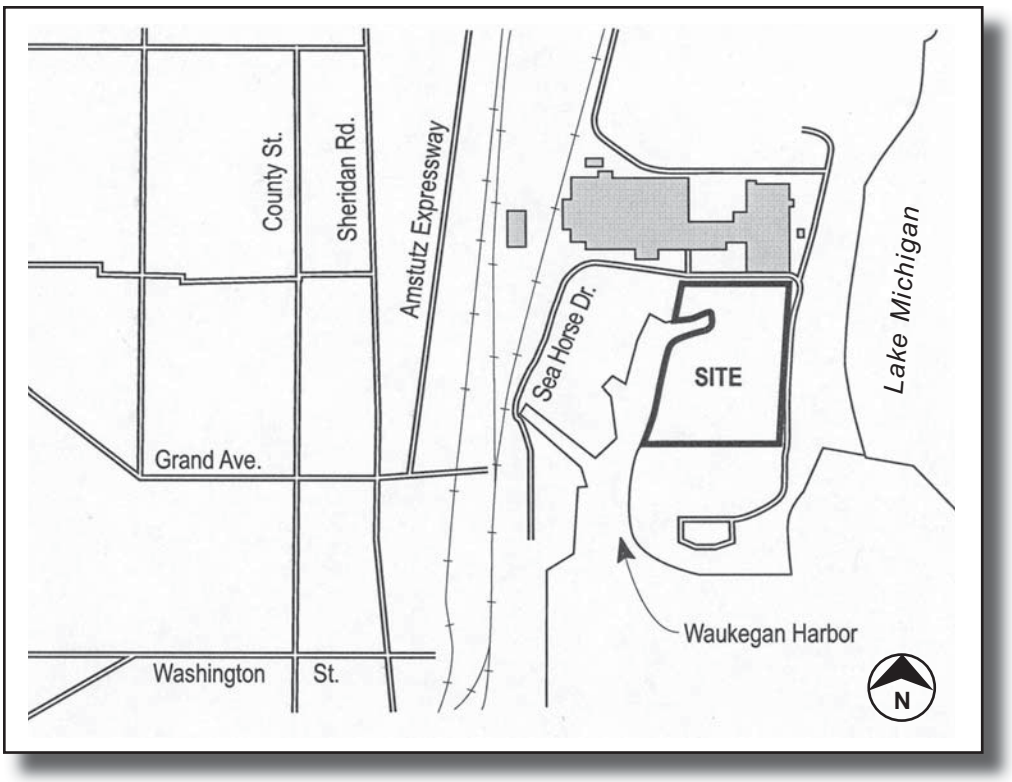
- The city and LMS Inc., owners of the site, to provide site access to all the parties for cleanup and monitoring;
- EJ&E, GM, and NSG, the potentially responsible parties, to complete the soil and ground-water cleanups in a timely manner;
- The city to operate and maintain the completed soil cleanup;
- EJ&E, GM, and NSG to operate, maintain and monitor the ground-water cleanup; and
- The city and LMS Inc. to place land-use restrictions on the property to prevent future interference with the completed soil and ground-water cleanup.

The cleanup agreement requires that the soil be cleaned to "commercial/industrial" standards and the ground-water (an underground source of fresh water) be cleaned to drinking water standards. However, the agreement also provides guidelines for redeveloping the site for a variety of uses, including residential, if further cleanup actions are taken with EPA approval.

Cleanup plan and schedule

EPA expects the soil cleanup work to begin in November and continue through June 2005. The soil cleanup will include the digging up and disposal of about 30,000 to 40,000 cubic yards of contaminated soil. This will meet the cleanup levels selected in the 1999 Record of Decision (cleanup plan) and the more stringent levels detailed in the changes made to the site cleanup plan, which are explained in EPA's 2004 Explanation of Significant Differences.

The two main soil contaminants are arsenic and napthalene. Arsenic-contaminated soil will be taken to a nearby licensed special waste



The 36-acre Outboard Marine Co./Waukegan Manufactured Gas and Coke Plant site is located in Waukegan, Ill., on a peninsula between Waukegan Harbor and Lake Michigan.

facility for disposal. Soil contaminated with high levels of naphthalene and similar organic compounds will be taken to an out-of-state regulated utility to be burned for power generation. Soil with lower levels of naphthalene will also be taken to a nearby licensed special waste facility for disposal. The excavations will be backfilled with clean soil and a 6-10 inch layer of clean soil will then be placed over the site.

Most of the soil cleanup will take place during the winter months to help lessen any problems with odors that may be associated with the soil removal. The soil cleanup is projected to cost approximately $8 to $10 million.

The ground-water cleanup plan is in the preliminary design phase and EPA anticipates that the design will be completed by summer 2005. The cleanup itself could begin as soon as fall 2005. We estimate that the active ground-water cleanup system will need to run through at least fall 2010.

The ground-water cleanup consists of the pumping of contaminated ground-water to a treatment system that removes the contaminants before the treated water is pumped back into the ground.

Ground-water contaminants of concern include ammonia, arsenic, benzene, thiocyanate and phenol. The proposed water treatment system is rather complex and will consist of steps to remove high levels of ammonia by converting ammonia into nitrate using bacteria. Arsenic will be separated from the ground-water and filtered out. Bacteria will also be used to break down the organic compounds benzene, thiocyanate and phenol. Once pumping is completed, the ground-water quality beneath the site will be monitored for the next 30 years or longer. Meanwhile, the minimal remaining contamination will be diluted and biodegraded through a process known as natural attenuation.

The total cost of the cleanup, both soil and water, is estimated to be $25 to $27 million, all of which will be paid by the potentially responsible parties.

EPA and IEPA will oversee the work to ensure it is done safely and in accordance with the cleanup agreement. You are encouraged to attend one of two open houses on Tuesday, Nov. 16 to learn details and have your questions about the cleanup plan answered (see the back page for location and times).

Redevelopment

The city of Waukegan now owns most of the Waukegan Coke Plant site property. Following completion of the soil cleanup, the city can either maintain the property or redevelop it. The city has expressed a desire to redevelop the land for residential use. In accordance with the cleanup agreement, if the property is redeveloped, the city or the developer will need to place an additional 2.5 feet of clean soil cover on the site and design building foundations that allow for residences to be constructed and occupied safely.

Both the city and LMS will be required to place institutional controls on the site. The institutional controls will not allow digging on the property or use of ground-water until the ground-water reaches drinking water standards. Although the ground-water cleanup is not scheduled to begin until late 2005, the city can begin redevelopment of the site after the soil work is done.

Glossary of terms

Ammonia: a colorless gaseous compound of nitrogen and hydrogen used in refrigeration and in making of fertilizers and explosives. Ammonia is irritating to the skin, eyes, nose, throat, and lungs. Exposure to high concentrations can cause serious burns.

Arsenic: a naturally occurring element used in manufacturing glass and as a pesticide and weed killer. Ingestion of arsenic is associated with skin cancer, and cancers of the bladder, kidneys, liver, lungs, and prostate.

Benzene: a colorless and flammable toxic liquid used as a solvent, and as a motor fuel. Exposure to benzene can increase the risk of cancer and lead to anemia and a decrease in blood platelets.

Biodegradation: microbes that live in the ground-water use some chemicals for food. Over time, digestion changes these chemicals into water and harmless compounds.

Dilution: helps to clean water; as pollution moves through ground-water, it mixes with clean water. This mixing reduces contamination to harmless levels.

Naphthalene: a white crystalline strong-smelling hydrocarbon made from coal tar or petroleum and used in organic synthesis and as a fumigant in mothballs. When mixed with air, naphthalene vapors easily burn. Exposure occurs mostly from breathing air contaminated from the burning of wood, tobacco, or fossil fuels, industrial discharges, or moth repellents. Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells.

*Natural attenuation: c*hemical, biological and physical interactions natural in the environment clean chemicals in ground-water.

Nitrate: the most completely oxidized form of nitrogen, formed during the final stages of biological decomposition, either in wastewater treatment facilities or in natural water supplies. Inorganic nitrates such as ammonium nitrate are commonly used as fertilizers

Phenol: a white, crystalline compound derived from benzene; used in the manufacture of weed killers, plastics, disinfectants; also used in solvent extraction, a petroleum refining process. Phenol is a toxic material; skin contact must be avoided.

Thiocyanate: a compound formed from a combination of sulfur, carbon, and nitrogen found in various foods and plants. Present in water primarily because of discharges from coal processing, extraction of gold and silver, and mining industries. Thiocyanates in soil result from direct application of herbicides (weed killers), insecticides, and rodenticides and from disposal of byproducts from industrial processes

United States
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Agency

Region 5
Office of Public Affairs (P-19J)
77 W. Jackson Blvd.
Chicago, IL 60604

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WAUKEGAN COKE PLANT SITE:
First Phase of Cleanup to Begin

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Open house sessions to discuss cleanup

U.S. Environmental Protection Agency invites you to attend an open house to learn the details of the cleanup and site redevelopment possibilities. EPA, state, and city officials will be available to answer your questions about the Waukegan Coke Plant site.

Two open house sessions will be held on:

Tues., Nov. 16

12:30 to 3 p.m. with a formal presentation at 1:30 p.m.

5 to 7:30 p.m. with a formal presentation at 6:30 p.m.

City Council Chambers
Waukegan City Hall
100 N. Martin Luther King Jr. Dr.
Waukegan

More information is available by contacting:
Mike Joyce (see contact information on front page)

Persons with special needs should get in touch with Mike Joyce.